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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/354,815 | 07/16/1999 | TOSHIYUKI TANAKA | 15162/00790 | 5615 |

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SIDLEY AUSTIN BROWN & WOOD LLP
717 NORTH HARWOOD
SUITE 3400
DALLAS, TX 75201

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| EXAMINER |
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TRAN, NHAN T

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| ART UNIT | PAPER NUMBER |
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2615

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/354,815

Applicant(s)

TANAKA, TOSHIYUKI

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/27/2005 & 4/29/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/27/2005 & 4/29/2005 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 4/29/2005 was filed after the mailing date of the Final Office Action on 1/27/2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

3. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-8, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima et al (US 6,427,423) in view of Nishimura et al (US 5,012,271).

Regarding claim 1, Ejima discloses a digital camera having a sequence-photograph mode (i.e., **one** of continuous modes with LCD closed) and other modes (i.e., a single mode S with LCD open and other continuous modes L, H with LCD open) as shown in Figs. 1-3, col. 4, lines 38-57 and col. 9, lines 7-61; the digital camera comprising:

an image pick-up element (20) for receiving light reflected from an object and outputting image data of the object (Fig. 6);

a light-receiving element (16, 51) for outputting data as to a light quantity received from the object, the light-receiving element being different from the image pick-up element (Fig. 6);

a first controller (39) for controlling an exposure amount (i.e., brightness value affected by aperture stop 54 and electronic shutter) of the image pick-up element for a next frame in a sequence of photographs based on the light-quantity data output from the light receiving in the sequence photograph mode (see Fig. 6; col. 6, line 64 – col. 7, line 30; col. 8, lines 24-38 and col. 9, lines 7-22 and note that when LCD is closed, the exposure amount is calculated based on the output from photometric circuit 51);

a second controller (33, 39) for controlling the exposure amount (brightness value) of the image pick-up element based on the image data output from the image pick-up element in the other modes (see Fig. 6; col. 8, lines 39-53 and note that the electronic shutter is controlled by

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using the feedback loop at CCD driving circuit 34 from DSP 33 as described in col. 6, lines 13-17).

Ejima does not explicitly disclose that the exposure amount of the image pick-up element for the next frame in the sequence of photographs is determined directly based on the light quantity data of a previous frame output from the light-receiving element in the sequence-photograph mode. As taught by Nishimura, an exposure amount of an image sensor (CCD 1 shown in Fig. 18) for a next frame in a continuous shooting mode is directly based on the light quantity data of a previous frame (S1 – S4 shown in Fig. 8) output from a light measurement sensor (LM shown in Fig. 7 or 219 shown in Fig. 18) so that the continuous shooting is realized at high speed because it is arranged minimize the time required for the real exposure, and it is also advantageous in reduction of energy consumption (see Nishimura, col. 8, lines 9-30 and col. 9, line 45 – col. 10, line 28).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Ejima by controlling the exposure amount for a next frame in the continuous shooting mode (with LCD closed) in the way that the exposure amount for the next frame would be determined directly based on the light-quantity data output from photometric element in a previous frame so as to reduce the time for controlling an exposure amount of the image sensor, thereby increasing continuous shooting rate at high speed and also reducing power consumption.

Regarding claim 2, Ejima shows a CCD (20) in Fig. 6.

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Regarding claim 3, Ejima discloses that a charge accumulation time of the CCD (brightness affected by electronic shutter) is controlled by the second controller based on the image data output from the image pick-up element (20) as shown in Fig. 6 and col. 8, lines 39-53 and note the feedback loop at the CCD driving circuit (34) for controlling electronic shutter of the CCD.

Regarding claims 6 - 8, see the analyses of claims 1-3, respectively.

Regarding claims 11-13, see the analyses of claims 1-3, respectively.

5. Claims 4-5, 9-10, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima et al (US 6,427,423) in view of Nishimura et al (US 5,012,271) and in further view of Aoki et al (US 5,424,772).

Regarding claim 4, Ejima further discloses parameters of a strobe (4) that is controlled by the CPU 39 and also discloses a strobe driving circuit 37 (a third controller) for emitting a light (col. 7, lines 31-32). However, Ejima and Nishimura do not explicitly teach that the strobe is controlled based on the light-quantity data output from the light-receiving element in the other modes.

Aoki teaches that photometric value (light quantity data) output from a photometric element is measured. If the photometric value is lower than a predetermined value, i.e., object to

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be photographed is dark, the strobe control circuit 53 is initiated to start the charging of a strobe capacitor for emitting a light (col. 7, lines 35-50 and col. 14, lines 24-27).

Therefore, it would have been obvious to one of ordinary skill in the art to further modify Ejima and Nishimura to include the teaching of Aoki for emitting a light based on the light quantity data in other modes when object to be photographed is dark so as to improve image quality.

Regarding claim 5, it is also seen that the quantity of the strobe (flash lamp) is controlled as whether to emit a light (quantity is a certain number) or not to emit a light (quantity = 0).

Regarding claims 9 & 10, see the analyses of claims 4 & 5, respectively.

Regarding claims 14 & 15, see the analyses of claims 4 & 5, respectively.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.



DAVID L. OMETZ
PRIMARY EXAMINER